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- (65) **Prior Publication Data**

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Related U.S. Application Data

- Nilsson, et al., Acoustic control of suspended particles in microfluidic chips, Lab on a Chip, 4:131-135, 2004.

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H02N 2/08 (2006.01)
B01L 3/00 (2006.01)
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- (52) **U.S. Cl.**
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- (57) **ABSTRACT**

An apparatus for manipulating particles uses tunable standing surface acoustic waves includes a channel defined on a substrate and a pair of variable frequency interdigital transducers. The channel is disposed asymmetrically between the transducers such that the zero order node location is outside of a working region in the channel.

8 Claims, 11 Drawing Sheets

